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THREE CASES OF OVARIOTOMY, OF WHICH TWO WERE SUCCESSFUL.

By David W. Cheever, M.D.

Reported to the Boston Society for Medical Improvement.

Case I.—Mrs. —— is married, and has borne two children ; she is now 40 years of age, but still menstruating.

She has noticed an enlargement of the abdomen for five years. About two years since she met with a fall, and subsequently has suffered, at intervals, from severe abdominal pains. Last summer and autumn she had a long illness from dysentery, while at the sea-side. She has never been so well since. Latterly, she has suffered from constipation, backache, and general disability to go about.

The abdomen is now very large, fluctuating from side to side ; resonant on the flanks. The abdominal walls are much loaded with fat. The uterus is rather high up, but movable. Its depth, with the uterine sound, is normal.

The patient has never been tapped, and never will consent to be tapped; but is urgent for a radical operation.

Diagnosis.—Apparently a single ovarian cyst, probably adherent.

The week immediately following menstruation was selected, and the operation performed Dec. 31, 1872. Drs. A. B. Hall and G. L. Underwood, of Boston, and Dr. Swazey, of Beverly, assisted me.

The stomach was entirely empty; but a glass of brandy and water was given a quarter of an hour before the operation.

The patient was protected from getting wet by Mr. Wells's rubber sheet, with an oval cut out over the abdomen, and fastened down with adhesive plaster. Only four ounces of ether were used, in Underwood's inhaler. The incision was between four and five inches long. The fat over the abdomen was an inch and a half thick. On reaching the cyst, it was tapped with Wells's trocar, and drained into a tub under the table. After the fluid had begun to flow, the end of the rubber tube attached to the trocar was kept under water, and thus a syphon action was maintained. There was but one large sac, which contained a pail and a half of fluid. The cyst was found largely adherent to the abdominal walls, to the omentum, and to about

four inches of the small intestine. These adhesions were, for the most part, broken down by the hand. Several bleeding points on the omentum were tied with silk, and the ligatures cut short off.

After the cyst was delivered from the abdominal cavity, a large soft sponge, moistened with water and warmed at the fire, was put into the abdomen, pushing back the intestines; and the walls were then held together over it. Hot, dry flannels were applied outside the abdomen.. Care was also taken to keep warmth applied to the feet. The temperature of the room was not much over 70°.

The pedicle was broad and short; and both on this account, and also because of the thickness of the adipose walls of the abdomen, it was found impossible to bring the clamp, which was put on it, outside the abdomen. The pedicle was then cut off, and the vessels in it tied separately with twelve silk ligatures. These were cut off short, the clamp removed, and the pedicle dropped back into the abdomen. A small amount of blood was sponged out of the abdominal cavity. Six deep silk sutures were passed, including the peritoneum; and two superficial ones. The wound was packed around with dry lint, and held by broad adhesive strips. The abdomen was then covered lightly with cotton batting, and a binder applied.

On removing the rubber sheet, the body and night-dress of the patient were found to be perfectly dry. She was lifted into bed and warm bottles applied to the feet. There was no apparent shock; no chilling of the surface; no sweating; the pulse remained good. She did not vomit after the ether. The operation lasted an hour and a quarter.

Four grains of opium were required the first night after the operation. For several days there was abdominal pain resembling colic. There was no distention or tenderness of the abdomen. On the second day the patient vomited several times, but ceased after taking hydrocyanic acid. Uterine hæmorrhage came on the third day, and continued, moderately, for four days. The urine was passed voluntarily, and without effort, for a week. The pulse never rose above 98. The stitches were taken out the fourth day. The bowels moved on the eighth day. On the fourteenth day the patient was moved from the bed to a lounge.

During the second week, pain in micturition came on, and the catheter had to be used. On the fifteenth day, an abscess burst in the wound, near the upper end, and discharged externally. This discharge continued moderately for a week. The patient suffered from an enormous accumulation of fæces, which must have gradually formed after the dysentery of the preceding autumn. A renewed uterine flow took place on the twenty-third and twenty-fourth days.

In the sixth week, after some days of backache and vesical irritation, an abscess burst in the rectum, and discharged in the form of purulent dysentery for some days.

In the eighth week, the patient was much better, and walked down stairs.

In the ninth week, a smaller abscess re-opened in the wound. Occasional small discharges took place for several weeks afterwards. When last seen, two weeks ago, her health and strength had greatly improved, and she walked out daily. The functions of the bladder and rectum were normal. She menstruated at regular periods. The old sinus at the lower end of the incision is still discharging pus.

Case II.—Mrs. ——, about 38 years old, and having two children, is still quite regular as to menstruation. About two years ago, she began to be troubled by a noticeable enlargement of the abdomen, with a feeling of weight, and a backache. One year ago she consulted me, and I found a uniform, elastic, fluctuating tumor filling the front and left side of the abdomen. In the right inguinal region was a small, hard mass projecting above the pubes. The uterus was movable; normal in location and depth.

Two months later, the abdominal enlargement suddenly disappeared, accompanied by some hours of severe colicky pains. Her joy at this spontaneous rupture of the cyst was soon checked by its reappearance; and before long it was as full as before. It now began to enlarge rapidly, and to fill the whole abdomen. As it enlarged, the hard lump in the right groin was masked, and concealed from view. She now had dyspepsia, shortness of breath, and severe backache.

In December last, I examined her for the second time, and found the tumor much larger than before. The walls of the abdomen were thin, and fluctuation distinct from side to side. The tumor was uniform and movable. The uterus free; in natural position; and the cavity of normal depth.

The *diagnosis* was of a single ovarian cyst, not adherent, probably. She had never been tapped. Her dyspepsia, backache and semi-invalid condition made her desire an operation.

The operation was performed January 6th, 1873, with the assistance of Drs. George Hayward, Hall Curtis and G. L. Underwood.

The room was well warmed with an open fire of coke. The table was prepared with a drainage-tub beneath. The patient was dressed in the clothes she habitually wore at night, with the addition of warm stockings. The stomach was empty. A glass of sherry was given a few minutes before etherization. Less than four ounces of ether were used in Underwood's inhaler.

Mr. Wells's rubber sheet was put over the body, and made to adhere around the oval cut out over the abdomen.

The incision was four inches long. The abdominal walls were thin. There was a little bleeding, checked by catch forceps, left on. On opening the peritoneum, the cyst was punctured with Wells's trocar, drained into the tub, and quietly sucked dry by the syphon action of the rubber tube attached to the trocar, its lower end being kept under the fluid in the tub. As the sac collapsed, it was dragged up under the hooks on each side of the trocar. There were no

adhesions, and the cyst was readily delivered. There was no leaking or hæmorrhage into the abdominal cavity. A large, warm sponge was immediately passed into the cavity left by the tumor, and the abdominal walls pinched together over it. Hot, dry flannels were then kept on the abdomen.

The cyst was attached to the left ovary, and the pedicle there was clamped and divided. It was now found that a broader and firm attachment existed to the right broad ligament. This was strong and hard, and seemed to be the place which had communicated the feeling of a solid mass in the right inguinal region before the operation. It was not thought wise to attempt a gradual separation of this attachment, but deemed better to put on a second clamp. This was done, and the connection severed. Both clamps, one above the other, were easily broughtoutside of the wound and retained there. The sponge was withdrawn, and the abdomen closed with four silk sutures, including the peritoneum. The clamps were packed around with dry lint. Adhesive strips encircled the abdomen; and the cotton batting and flannel binder applied as in the first case.

The cavity of the peritoneum was open twenty minutes.

On removing the rubber sheet, the patient was found dry and warm, and placed in bed. Warm bottles were applied to the feet. There was no shock. The pulse remained firm and slow. She vomited several times the first six hours after the operation, but never afterwards.

When the patient regained consciousness, she complained of severe uterine pains, like labor pains, and for these she took a considerable amount of Squibb's liquor opii comp. during the first night. The urine was passed voluntarily every few hours; and the catheter was not required at any time.

On the third day, uterine hæmorrhage came on; also pains resembling colic, with flatus. There was, however, no great distention of the abdomen, and no tenderness whatever. The pain was alleviated by hot bottles to the flanks, and by opium. On the fourth, fifth and sixth days, the pulse rose to 120. Very little nourishment was taken during the first few days, and it was not pressed on the patient. No stimulant was required.

Two stitches were taken out on the fourth day, but no fluid exuded from the wound. The other stitches and the two clamps were taken away on the ninth day, without hæmorrhage. The bowels moved spontaneously on the seventh day.

Convalescence was uninterrupted. It was retarded, however, by a slowness in cicatrizing of the stump of the pedicle. This obliged the patient to remain in bed six weeks. She is now able to resume her customary habits, and feels better than she has done for several years. Twice since the operation she has menstruated, and on each occasion there has been a discharge of blood from the pedicle, lasting several days.

Case III.—Mrs. ——, 37 years of age, has had one child, nine years ago. For seven years past she has been conscious of some trouble in the abdomen. Menstruation has been regular, and the functions of the bladder and rectum have been perfectly discharged. She has, however, been a constant sufferer from dyspepsia. Appears now in tolerable health, though never strong. For the last two years a tumor has been very evident in the abdomen, and has slowly increased. She has suffered more and more from backache, dyspepsia and emaciation. On examination, a rounded tumor occupied the centre and left of the abdomen. Fluctuation was perceptible, but obscure. The abdominal walls were thin. The flanks and epigastric region were resonant. The tumor was obscurely lobulated in the left part of the abdomen. There was no tenderness or pain; but the tumor felt rather firm. Examination by the rectum revealed nothing. The uterus was small, very movable, and of normal depth; neither elevated, nor depressed in the pelvis. The bladder was normal. The patient asserted that the tumor began in the left groin. The cysts were very freely movable from side to side.

Diagnosis.—An ovarian tumor—probably multilocular, and more or less filled with semi-solid proles. She had never been tapped.

The size of the tumor was not so great as to threaten life immediately, and the patient was advised to wait. In several subsequent interviews, at intervals of a few weeks, she became urgent for an operation on account of her suffering from backache and dyspepsia, and because of the wearing effect of expectation on her mind.

The operation was done March 26th, 1873, with the assistance of Drs. A. B. Hall, A. D. Sinclair and G. L. Underwood.

The patient had a light, airy room, and an open fire. The bed was arranged at hand; and the table and tub prepared as before. The stomach was empty; a stimulant was given; and four ounces of ether were used in Underwood's inhaler. The rubber sheet was applied over the abdomen.

The incision, of four inches, soon penetrated the thin abdominal walls, and the tumor was tapped with Wells's trocar. No fluid came. On withdrawing the trocar, the cyst was found filled with a thick, yellow, gelatinous substance, like soft boiled custard. This, which was liquid at the temperature of the body, set as firmly as cheese in the cold rubber tube of the trocar. On passing the finger into the cyst, a mass of long, thin hair pushed forth. The incision was now at once prolonged upwards to the level of the umbilicus. The cyst was slit open with the knife, and its contents turned out with the hand. Great care was taken to prevent the contents of the cyst from leaking into the abdomen, and with entire success. The tumor was found to consist of a single cyst, without any adhesions, except a trifling one to the edge of the omentum. It was readily delivered, and the pedicle found to be the left ovary and broad ligament.

The warm sponge was now passed into the abdomen, the sides

closed, and the flannels used as before described. The pedicle was clamped and cut off. The edge of the omentum, which bled a little, was tied with two silk ligatures, and the long ends brought outside with the clamps. The abdominal cavity was quite clean. Six deep silk sutures and strips of adhesive plaster were applied. The pedicle was now touched with the solid perchloride of iron. The cotton batting and binder were put on.

On removing the rubber sheet, a little of the cheesy contents of the cyst had soiled the night clothes. These soiled portions were cut off, and the patient immediately laid dry in bed. Warm bottles were placed beside her. The face was congested, but the pulse was good and the skin warm. The operation lasted forty-five minutes. The cyst was found to be of the variety called dermoid; and contained long hair and six teeth.

Immediately on coming out of the ether, the patient began to vomit, and nausea and retching subsequently prevented her from taking nourishment. There was no evidence of shock; and it is quite questionable whether the wretched condition of the stomach previously, which had driven her to the operation, was not the chief cause of her subsequent nausea and non-assimilation of food. She required the catheter, which was employed every six hours. The pulse rose in frequency, slowly, but steadily. There was never any tenderness of the abdomen, although on the third day she had colic, and subsequent distention with wind. These symptoms were combatted with warmth, opium and enemata; and when the stomach obstinately refused to assimilate, enemata of beef-tea, brandy and laudanum were given. On the third, fourth and fifth days, the symptoms growing worse, some of the stitches were taken out, and the wound opened just above the clamp. A probe and a catheter were passed into the abdominal cavity, but no fluid could be found. Meanwhile, the patient grew weaker and more emaciated, being unable to retain any food or drink. The upper portion of the wound healed, and the clamp loosened without hæmorrhage. The pulse ran up to 130, 140, and so on; and at the end of *six* days she died. No farther examination of the body could be made.

Death must, I think, be ascribed to the shock of the operation, and the disturbing effect of the anæsthetic on a nervous and a digestive system weakened by a long course of dyspepsia. Certainly there were no symptoms of hæmorrhage, of septicæmia, or of acute peritonitis.

The abscesses opening externally and through the rectum, in the first case, were probably due to suppuration of the pedicle, and to the ligatures shut up with it. For although in many cases given by Mr. Wells no trouble whatever followed the intra-peritoneal treatment of the pedicle, with ligatures cut short off, yet in others abscesses followed. In a patient of Dr. Keith's, the pedicles having been treated as above, recovery was continuous for six weeks. At the end

of that time there was pain and irritation, followed by pelvic abscess, and finally, a fæcal fistula. This eventually got well. Mr. Bryant had a case in 1867, where the ligatures were discharged some months afterwards through an artificial anus, which, in the end, healed up completely.

The results of Mr. Wells's five hundred cases are much more favorable to the clamp than to any other method of treatment. He says:—"Patients who recover after the extra-peritoneal treatment of the pedicle, as a rule, soon regain and maintain perfect health. So do many of those who recover after the intra-peritoneal treatment. But some of them, sooner or later, suffer from chronic suppuration, hæmatocele, or fæcal fistula; or, perhaps without any definite local ailment, are many months before they become strong and well."*

The curious physiological phenomenon of menstruation through the stump of the pedicle, which occurred in case II., is not very uncommon. Mr. Wells thinks it takes place in at least one third of the extra-peritoneal cases. He goes on to say:†—"But if the patient be prepared for it, it is not of the slightest consequence. The Fallopian tube contracts completely after a few months, and there is no further escape. The fact that it does escape, sometimes, is to my mind an argument in favor of the clamp; for if menstrual fluid can escape through the partially closed Fallopian tube fixed in the cicatrized wound, so it may escape if the tube be left within the peritoneal cavity, and the result may be a fatal hæmatocele. I have known this to occur in cases where the ligature was used and cut off short; and I believe it to be one of the strongest objections to this method, or to any intra-peritoneal method, of dealing with the pedicle."

The tumor in case III. was of the variety called dermoid cyst. The same authority above quoted says:—"The accidental new formations in ovarian cysts, though not so common as the fluid contents, occur often enough to make them objects of pathological importance. Among these substances may be mentioned striated muscular fibres, brain and nerve tissue, bone, adipose tissue, and all sorts of dermoid structures—such as hair, teeth and glands." These peculiar cysts have been known to grow from other parts of the peritoneum, and even in man. "The osseous structure itself is that of genuine bone, the Haversian canals and bone-cells being arranged in lamellæ, though the cells are often large, and have fewer inter-communicating branches. Some of the teeth are perfect, and have all the structural arrangement of ordinary teeth, but the greatest part remain in a rudimentary condition. The number in a single cyst is sometimes extraordinary. Schabel describes the case of a girl, aged thirteen, not having menstruated, in whom there was an ovarian cyst, three times the size of a man's head, containing three pieces of bone, and more than a hundred teeth of all classes. Paget mentions a cyst in which more than three hundred teeth were found.

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* Diseases of the Ovaries, by T. Spencer Wells, p. 401.
† Op. cit., p. 373.

"The sacs often contain a large quantity of greasy substances, mixed up with tufts of matted hair.

"The question whether these dermoid cysts are the result of impregnation (direct or secondary) does not need discussion. They have a character quite distinct from that of extra-uterine fœtation, and grow independently of spermatic contact, in young children, and even before birth, and in situations and under conditions where such influence would be simply impossible.

"The peculiar formative and reproductive power inherent in the tissues of the body is as operative in the production of these vagaries, as it is in the crops of multiform morbid growths, which spring up everywhere, under circumstances of which we can give no rational explanation."*

This dermoid cyst (Case III.) is partially lined with skin, having, apparently, follicles and glands; and growing from it there is hair seventeen inches in length.

It also contains bony rudiments of an upper and a lower jaw. There are six teeth, of both the deciduous and permanent sets. The upper jaw contains three incisors and two bicuspids; the lower jaw has one molar. There is an excrescence which might pass for a rudimentary uvula and soft palate; and a cavity in the upper jaw, which might answer for the nares, or the orbit.

NOTE.—Two of these operations were done in Boston, and one in Charlestown. All were in private houses.

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* Op. cit., p. 70.